Department of Toxic Substances Control

Deborah O. Raphael, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

November 13, 2013

Mr. John Jones, PMP
U.S. Department of Energy/ETEC
4100 Guardian Street, Suite 160
Simi Valley, CA 93063

DTSC APPROVAL OF MASTER WORK PLAN FOR SOIL TREATABILITY STUDIES IN AREA IV AT THE SANTA SUSANA FIELD LABORATORY, VENTURA, CALIFORNIA

Dear Mr. Jones:

The Department of Toxic Substances Control (DTSC) has reviewed the *Master Work Plan, Soil Treatability Studies, Area IV Santa Susana Field Laboratory, Ventura County, California* (Master Soil Treatability Studies Work Plan; CDM Smith, October 2013).

The Master Soil Treatability Studies Work Plan was prepared for the United States Department of Energy (DOE), Energy Technology and Engineering Center, and was submitted for DTSC approval to comply with the Administrative Order on Consent for Remedial Action (AOC; Docket No. HSA-CO 10/11-037) requirements for treatability testing to evaluate on-site treatment capable of achieving the cleanup goals.

The Master Soil Treatability Studies Work Plan presents the objectives and proposed activities associated with the five treatability studies to be conducted by DOE for Area IV of the Santa Susana Field Laboratory (SSFL). The treatability studies that will be performed include:

- Soil Partitioning Study;
- Mercury Contamination Study;
- Phytoremediation Study;
- Bioremediation Study; and
- Natural Attenuation Study.

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The goal of the five treatability studies is to evaluate technologies that can either reduce the contaminant concentrations of Area IV soils to regulatory limits or reduce the volume of contaminated soil requiring treatment or off-site disposal.

The Master Soil Treatability Studies Work Plan adequately presents the overall objectives and associated activities and requirements of the five proposed treatability studies, and fulfills the AOC requirement for a work plan and sampling and analysis plan deliverable for the soil treatability studies. DTSC approves the Master Work Plan for implementation.

If you have any questions regarding this approval, please don't hesitate to contact Mark Malinowski at (916) 255-3717 or via e-mail at Mark.Malinowski@dtsc.ca.gov or Roger Paulson at (916) 255-3702 or via e-mail at Roger.Paulson@dtsc.ca.gov.

Sincerely,

Raymond Leclerc, PE
Division Chief
Department of Toxic Substances Control

Enclosures: *Technical Memorandum on Master Work Plan for Soil Treatability Studies in Area IV at Santa Susana Field Laboratory*

cc: (via e-mail)

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MEMORANDUM

TO: Raymond Leclerc, PE
Assistant Deputy Director
Brownfields and Environmental Restoration Program

FROM: Roger Paulson, PE
Senior Hazardous Substances Engineer
Santa Susana Field Laboratory Unit

DATE: November 13, 2013

SUBJECT: MASTER WORK PLAN FOR SOIL TREATABILITY STUDIES IN AREA IV AT THE SANTA SUSANA FIELD LABORATORY

I have completed a review of the Master Work Plan, Soil Treatability Studies, Area IV Santa Susana Field Laboratory, Ventura County, California (CDM Smith, October 2013). Based on my review, I recommend approving the work plan.

BACKGROUND

The Master Work Plan presents the overall objectives and associated activities and requirements of the five treatability studies being conducted by the United States Department of Energy (DOE) for Area IV of the Santa Susana Field Laboratory.

The goal of the five treatability studies is to evaluate technologies that can either reduce the contaminant concentrations Area IV soils to cleanup goals or reduce the volume of contaminated soil requiring treatment or off-site disposal. An example of a technology to reduce the volume of contaminated soil is soil partitioning. Certain contaminants may preferentially adhere to a narrow range of soil particle sizes. In that case, the target soil size could be screened or filtered to reduce the overall volume requiring treatment or disposal.

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Sandia National Laboratories (Sandia) performed an evaluation of possible soil treatability technologies and then made recommendations on which technologies should be tested using Area IV soil and conditions. Six treatability study options were recommended by Sandia:

- Identifying how soil contaminants are partitioned to soil particles;
- Determining the valence state of mercury in soils;
- Evaluating phytoremediation potential;
- Evaluating bioremediation potential;
- Evaluating thermal treatment potential; and
- Evaluating natural attenuation potential.

DOE chose to have California universities implement five of the soil treatability studies, deciding not to conduct the thermal treatment study. The treatability studies that will be performed include:

- Soil Partitioning Study;
- Mercury Contamination Study;
- Phytoremediation Study;
- Bioremediation Study; and
- Natural Attenuation Study.

As described above, Master Work Plan details the overall objectives and associated activities and requirements of the five treatability studies.

DOCUMENT REVIEW

The Master Work Plan was originally submitted to the Department of Toxic Substances Control (DTSC) On September 10, 2013. DTSC reviewed the document and identified several general and specific issues. In addition to me, Laura Rainey and Buck King of DTSC's Geologic Services Branch participated in the document review process.

DTSC and DOE met to discuss and resolve the issues identified in the initial review, and the document was revised and resubmitted on November 1, 2013. DTSC verified that the issues were satisfactorily addressed in the revised Master Work Plan.